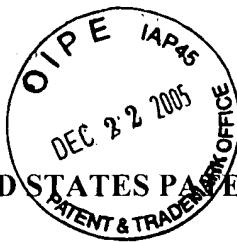


(FJW)



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Customer Number: 20277  
 Tetsuo NANNO, et al. : Confirmation Number: 2341  
 Application No.: 10/513,966 : Group Art Unit: 1723  
 Filed: November 10, 2004 : Examiner: Not yet assigned

For: METHOD FOR SEPARATING METAL-RESIN JOINT AND SEPARATING APPARATUS

**SECOND REQUEST FOR CORRECTED FILING RECEIPT**

Mail Stop OFR  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

Sir:

Attached is a copy of the Filing Receipt received from the U.S. Patent and Trademark Office in the above-referenced application. It is noted that the **the number of independent claims is incorrect and the Assignee information is absent**. Attached is a copy of the listing of the claims, which evidences that **the number of independent claims should read: 3**. Also attached is the Assignment which evidences that **the Assignee information should read: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.** It is requested that a corrected filing receipt be issued.

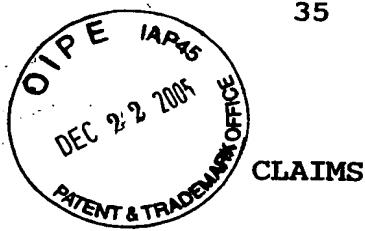
Respectfully submitted,

McDERMOTT WILL & EMERY LLP

Michael E. Fogarty  
 Registration No. 36,139

Please recognize our Customer No. 20277  
 as our correspondence address.

600 13<sup>th</sup> Street, N.W.  
 Washington, DC 20005-3096  
 Phone: 202.756.8000 MEF:sln  
 Facsimile: 202.756.8087  
 Date: December 22, 2005



1. A method for separating a metal-resin joint comprising the steps of:

(1) immersing an article comprising a metal-resin joint with a counter electrode in an alkaline solution; and

(2) applying a voltage over a certain time period between the metal portion of said joint and said counter electrode such that the potential of said metal portion is lower than that of a standard hydrogen electrode.

2. The method for separating a metal-resin joint in accordance with claim 1, wherein the voltage is applied over a certain time period between the metal portion of said joint and said counter electrode such that the potential of said metal portion is -2 V or higher and -0.6 V or lower relative to the standard hydrogen electrode.

3. The method for separating a metal-resin joint in accordance with claim 1, wherein said alkaline solution has a hydroxide-ion concentration of 0.1 M or higher and 15 M or lower and contains alkali metal cations.

4. The method for separating a metal-resin joint in accordance with claim 1, wherein said alkaline solution has a hydroxide-ion concentration of 3 M or higher and 7 M or lower and contains alkali metal cations.

5. The method for separating a metal-resin joint in accordance with claim 1, wherein said alkaline solution has a

temperature of 0°C or higher and 80°C or lower.

6. The method for separating a metal-resin joint in accordance with claim 1, wherein said step (2) comprises applying ultrasonic vibration to said joint.

7. The method for separating a metal-resin joint in accordance with claim 1, wherein said step (2) comprises applying peeling stress to said joint.

8. The method for separating a metal-resin joint in accordance with claim 1, wherein said metal portion comprises one or more selected from the group consisting of Al, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Mo, Rh, Pd, Ag, Sn, Re, Os, Ir, Pt, Au, Hg and Pb.

9. The method for separating a metal-resin joint in accordance with claim 1, wherein the resin portion of said joint comprises one or more selected from the group consisting of polyolefin, polyamide, polyester, polyacetal, polycarbonate, polyarylene ether, polyarylene sulfide, polysulphone, polyether ketone, polyimide, fluorin-containing polymer, natural rubber, phenol resin, polyurethane, silicone resin, and epoxy resin.

10. The method for separating a metal-resin joint in accordance with claim 1, wherein said joint is formed by (i) application of a resin material to a metal article, (ii) injection molding of a resin material onto a metal article, or (iii) bonding of a metal and a resin material by vulcanization.

11. The method for separating a metal-resin joint in

accordance with claim 1, wherein the metal portion and the resin portion of said joint are bonded with an adhesive or adhesive tape, and said adhesive or adhesive tape comprises one or more selected from the group consisting of vinyl acetate resin, acrylic resin, synthetic rubber, nitrile rubber, epoxy resin, cyanoacrylate resin, and polyvinyl chloride resin.

12. A method for recycling a waste article comprising the steps of:

(1) collecting a waste article comprising a metal-resin joint;

(2) immersing said joint and a counter electrode in an alkaline solution;

(3) separating the resin portion from the metal portion by applying a voltage over a certain time period between the metal portion of said joint and said counter electrode such that the potential of said metal portion is lower than that of a standard hydrogen electrode; and

(4) segregating the separated resin portion and said waste article from which the resin portion has been separated.

13. An apparatus for separating a metal-resin joint comprising:

(a) a container made of an alkali-proof material for accommodating an article comprising a metal-resin joint;

(b) an alkaline solution contained in said container;

(c) a counter electrode immersed in said alkaline

solution;

(d) a power source;

(e) a connecting member A for electrically connecting one terminal of said power source with the metal portion of said joint of said article comprising the metal-resin joint; and

(f) a connecting member B for electrically connecting the other terminal of said power source with said counter electrode.

14. The apparatus for separating a metal-resin joint in accordance with claim 13, wherein said connecting member A comprises a conductive material, and a portion of said conductive material is coated with an insulating oxide layer.

15. The apparatus for separating a metal-resin joint in accordance with claim 14, wherein said insulating oxide layer is coated with an insulating resin layer.

Attorney Docket No.: \_\_\_\_\_

## **ASSIGNMENT**

WHEREAS, Tetsuo NANNO and Yoichi IZUMI hereinafter called the "Assignors," have jointly invented a new and useful invention entitled METHOD FOR SEPARATING METAL-RESIN JOINT AND SEPARATING APPARATUS for which they have:

- (a) filed an application for United States Letters Patent on \_\_\_\_\_ as (Serial No. \_\_\_\_\_); or
- (b) executed an application for United States Letters Patent on \_\_\_\_\_; or
- (c) filed a provisional application on \_\_\_\_\_ as (Serial No. \_\_\_\_\_); and

WHEREAS, Matsushita Electric Industrial Co., Ltd., a corporation organized and existing under the laws of Japan, having a place of business at: 1006, Oaza-Kadoma, Kadoma-shi, Osaka 571-8501 Japan, hereinafter called the "Assignee," is desirous of acquiring the entire right, title and interest in and to said invention, the application above identified, and in, to and under any Letters Patent which may be obtained to said invention, as hereinafter more fully set forth;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for and in consideration of the sum of One Dollar (\$1.00), and other valuable and legally sufficient considerations, the receipt of which by said Assignors from the said Assignee is hereby acknowledged, the said Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the said Assignee, the entire, right, title and interest for the United States in and to the invention and application hereinabove identified, and any Letters Patent of the United States that may issue for said invention, together with the entire right, title and interest in and to said invention and applications for Letters Patent and Letters Patent therefor, in all countries foreign to the United States, including the full right to claim for any such application all benefits and priority rights under any applicable convention; to have and to hold for the sole and exclusive use and benefit of the said Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said inventions may issue.

And the said Assignors do hereby covenant and agree, for themselves and their legal representatives, that they will assist the said Assignee in the prosecution of the application herein identified; in the making and prosecution of any other applications for Letters Patent that the said Assignee may elect to make covering the invention herein identified, as hereinabove set forth; investing in the said Assignee like exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patent herein contemplated; and that they will execute and deliver to the said Assignee any and all additional papers which may be requested by the said Assignee to fully carry out the terms of this Assignment.

The undersigned hereby grant(s) the attorneys of McDermott, Will & Emery LLP the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

And the Commissioner of Patents and Trademarks is hereby authorized and requested to issue Letters Patent to the said Assignee in accordance with the terms of this Assignment.

IN TESTIMONY WHEREOF, the said Assignors have hereunto set their hands and affixed their seal.

Date:  
(Seal)

September 3, 2004

Tetsuo Nanno

Tetsuo NANNO

Date:  
(Seal)

September 3, 2004

Yoichi Izumi

Yoichi IZUMI